Domestic/Industrial Water Issues

Summary of Concurrent Breakout Sessions
April 20, 1999

Session I: Regulatory Framework (Federal, State, NGO)

General Comments:

The most important Chinese priorities for industrial and domestic wastewater treatment are:

- Protecting of drinking water sources
- Ensuring the lakes met water discharge criteria
- Concentrating on municipal wastewater treatment at the local, regional and national level
- Ensuring protection of water sources with strong involvement of the industrial sector

The primary "lessons-learned" from EPA regarding our regulatory framework are:

- With respect to point-source pollution regulation, EPA has managed this area well
- Main regulatory challenges for EPA are now in the area of non-point source pollution control (e.g. agricultural runoff, street runoff)
- EPA is now taking an integrated water management approach for planning an infrastructure development that links with land and air quality
- The quality of water resources is a direct function of the quality of land and air resources.

Suggested Areas for Collaboration:

In her presentation Ms. Hu Zhongping from the Ministry of Construction suggested areas for collaboration include:

1. Strengthening environmental policies
2. Conducting research on water pricing and management
3. Establishing market-oriented approaches for water pricing
4. Other topics suggested for collaboration are:
5. Convene a forum on water resource management for non-point pollution control

6. ❄ Collaborate on cleaner production technology and techniques that build upon China's national clean production policy
7. ❄ Provide training on enforcement (e.g. enforcement management training) that includes examples on how to provide industrial incentives for compliance
8. ❄ Identify and improve environmental discharge databases for compliance-related activities
9. ❄ Develop and enhance cooperative relations with NGOs in China who can provide public education to effect change

Session II: Industrial Waste Policy, Technology, and Pollution Prevention

General Comments:

Mr. Huang Xiaozeng from SEPA highlighted eight priority areas for SEPA. They are:

- ❄ Establishing and improving integrated decision-making systems on environment and development
- ❄ Strengthening the treatment of industrial pollution sources
- ❄ Accelerating the construction of urban sewage treatment plants
- ❄ Accelerating pollution prevention and control of key river basins
- ❄ Improving the management systems and strengthening the building of environmental information systems
- ❄ Formulating economic policies that are favorable to the environment
- ❄ Furthering the management systems on the water environment
- ❄ Reinforce the environmental science research such as methods of total discharge control, environmental impact assessments, fees for discharge and human health protection

Suggested Areas for Collaboration:

1. ❄ Participate in Green Chemistry Trade Fair
2. ❄ Perform technology assessment and evaluation of wastewater treatment and pollution prevention technologies to ensure they are appropriate, effective and will be accepted by technology end-users
3. ❄ Promote public education
4. ❄ Promote voluntary outreach programs to industry that are economically driven and show economic return to industry
5. ❄ Provide industry education to both existing facilities and new facilities on the Cleaner Production Initiative
6. ❄ Establish web-based communication systems on cleaner production issues
7. ❄ Develop case studies for specific industries that demonstrate the economic benefit and the return on investment for clean production

8. ❄Identify a pilot technology demonstration project that promotes economic development and ensures environmental quality
9. ❄Provide a forum that explains the process on how federal science, research and technology breakthroughs can be transferred to the local and township/village enterprise (TVE)
10. ❄Develop a research program on alternative energy and treatment technology efforts targeted for the TVE-level
11. ❄Develop simplified models to estimate load allocation and calibration
12. ❄Form teams to advance the Nov. 1999 Cleaner Production Meeting in China
13. ❄Collaborate with the American Chemical Society to provide graduate training on green chemistry (capacity building)
14. ❄Identify and link relevant cooperative activities among various agencies on both the US and China side
15. ❄Develop cooperative activities on energy efficiency and energy savings with EPA and US Department of Energy with Chinese equivalents
16. ❄Create linkages between US companies working on design for environment activities with Chinese counterpart industries

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Session III: Water Environment

General Comments:

John Armstrong present his experience on the Puget Sound/Georgia Basin Project on how to prioritize ecosystem management issues.

Mr. Ren Guangzhao presented the present and future (next 50 years) status of water resources in China. Some of the key points of his presentation were:

Present Status:

- ❄ China is abundant in the total amount of water resources; however, per capita occupancy is less (Chinese citizens use 1/5 the amount of water used by Americans)
- ❄ Uneven distribution of water exists in the territories (South of the Yangtze River is 36% of the total land area in China, yet it has 80% of the water).
- ❄ Water is used in the following ways - 70% of water is used for irrigation, 20% is used for industry, and 22% is used for domestic purposes - 40% is used for industry and

22% is used for domestic purposes - (*40% of all available water in China is currently being used).*

- Water shortage exists in both agricultural and human consumption
- Water is seriously wasted (15-20%) is lost due to leaking and dripping
- 48% of China's rivers are polluted and there are threats of many drying up such as the Yellow River. Paper mills are the major source of pollution.

Prospects:

- By the year 2050 an additional 240 km2 is needed to meet demand (they expect 56% of total population to be settled in the urban areas. Currently it is 26%.
- New water projects are planned - exploitation of groundwater sources, increase water collection systems, systems to transport water, desalinization of sea water.
- A national plan is being developed for water resources planning.

Suggested areas for Collaboration:

1. GIS/Remote sensing as an effluent monitoring technique for permitting purposes
2. Bring trainees to US for hands-on GIS training
3. Hold FIELD/GIS workshops in US/China
4. Use pilot applications of FIELDS to Cao and Poyang Lake.
5. Test Chinese GIS approaches in the US
6. Use GIS for drinking water distribution and waste water collection systems
7. Align US/China GIS work with three lakes and three rivers in China
8. Use GIS to assess global climate change variability.
9. Coordinate with Chinese organizations (Ministry of Science and Technology, SEPA, local government units) that are involved in adverse human health aspects of pollution to determine high risk areas.

Session IV: Financing

General Comments:

John Wise presented an overview of environmental costs and two models for collection, treatment and disposal of wastewater streams.

Mr. Zhang, Shengshen Water Supply Co., Ltd spoke of the application of advanced drinking water purification systems. He spoke about the new market-based model and the investment package needed to build, operate and maintain the facility, while making a profit. He also spoke abut the ned for appropriate technology for wastewater purification. Other comments:

- There is a growing bottled water market in China due to poor quality municipal water
- In 1998 the Chinese central government began to issue bonds
- Companies are starting to charge user fees but they only cover 1/6th the cost of treatment.

Suggested Areas for Collaboration:

1. Exchange information on how to set up financing schemes to support infrastructure projects.